

REMARKS

This application has been reviewed in light of the Office Action dated December 5, 2003. Claims 1-15 are presented for examination. Claims 1 and 2 are independent. Claims 1, 2, 4, 5-7, 10 and 11 have been amended. Favorable reconsideration and allowance are respectfully requested.

The Office Action objected to claim 1 as not be completely written in comparison to the marked-up version, and went on to examine the application based on the marked-up version. Applicants have in this Amendment presented claim 1 (and all other claims) in its complete and proper form, presenting the amendments with respect to the marked-up version on which the Office Action was based.

The Office Action rejected claim 1 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,008,978 to Waeber et al., claims 2, 4-6, 10, 12 and 14 under 35 U.S.C. § 103(a) as obvious from Waeber in view of U.S. Patent No. 5,520,099 to Chung; claims 7, 8, 11 and 15 under Section 103(a) as obvious from Waeber in view of Chung further in view at JP-405044942-A to Kaminaka; and claims 3, 9 and 13 under Section 103(a) as obvious from Waeber in view of Chung and U.S. Patent No. 4,059,742 to Baron. These rejections are respectfully traversed.

As recited in the independent claims, the present invention relates to a combination of a chamber, a low melting point temperature sensor and a safety device. Substances in the chamber are exposed to high frequency radiation. The temperature sensor is arranged in a pressure line, and both the sensor and the pressure line are mounted in the chamber. A safety device responds to the melting of the sensor, or to a change in pressure in the pressure line produced by the melting of the sensor, to control the temperature in the chamber.

Chemical reactions and processes are often initiated or accelerated by the introduction of energy. Typically, reaction mixtures are arranged in a locked vessel, and energy is introduced through the application of radiation. As a rule, access cannot be readily gained to the interior of the vessel in the event of a fire, explosion or the like.

As a result, so-called safety devices are sometimes incorporated into the vessels. These conventional devices, however, have drawbacks. Most notably, they are configured to control the supply of energy to the system when a dangerous condition is detected, but do nothing to remove the danger itself. The present invention overcomes this drawback by providing a system in which a low melting point temperature sensor acts in concert with a safety device to provide a true safety solution. In particular, the safety device responds to the melting of the sensor, or to a change in pressure produced by the melting of the sensor, to control the temperature in the chamber. In this manner, the danger which caused the sensor to melt may be effectively removed.

Waeber relates to an apparatus for treating cotton contaminated with honeydew. In Waeber, alarm-type infrared sensors 44 are incorporated within a microwave-oven housing 33. According to Waeber, in the event of a local overheating during operation, all microwave generators are switched off, and a halogen extinguishing gas is delivered into the housing. However, Waeber is explicit that its sensors 44 are connected to a control system 80, which control system switches off the generators and releases the gas. The sensors 44 signal the control system electrically, by providing the control system with an electrical signal when an overheating condition exists.

In the present invention, in stark contrast, a low melting point temperature sensor is used, and is arranged in a pressure line that is mounted within the chamber. The safety device responds to a melting of the sensor, or to a change in pressure caused by the melting of the sensor, to control the chamber temperature. This approach is fundamentally different from the technique of

Waeber, which shows a control system that responds to an electrical signal provided by an infrared sensor.

Because there is nothing in Waeber to teach or suggest a low melting point temperature sensor, or a safety device that responds to the melting of such a sensor, or to a change in pressure produced by such a melting, Applicants respectfully submit that Waeber cannot possibly anticipate the invention of claims 1 or 2.

The other applied references do not correct the deficiencies of Waeber. In Chung, there are a plurality of poles 48, with nozzles 49 for spraying hot oil over a food product 12. But there is no low melting point temperature sensor, and no safety device that responds to its melting, or to a change in pressure produced by its melting. In Kaminaka, the sensor 17 is a pressure sensor that senses an expansion of air, and not a temperature sensor. And in Baron, there is no sensor of any type.

Because none of the cited art teaches or suggests the low melting point temperature sensor or the safety device recited in claims 1 and 2, Applicants respectfully submit that claims 1 and 2 are plainly patentable over Waeber, Chung, Kaminaka and Baron, and respectfully request the Examiner to remove the corresponding Sections 102 and 103 rejections.

The remaining claims depend from claim 1 or claim 2, and each partakes in the novelty and nonobviousness of its respective base claim. Further, those claims recite additional patentable features of the present invention, and individual reconsideration of each is respectfully requested.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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